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The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 16

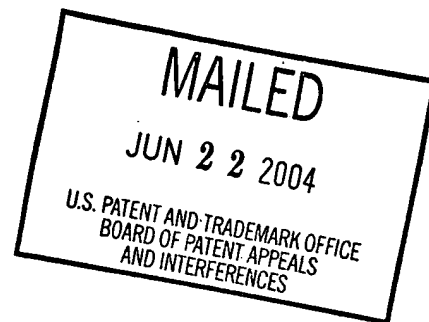
UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

Ex parte JOHN R. TUTTLE

Appeal No. 2003-0254  
Application No. 09/629,933

ON BRIEF



Before THOMAS, KRASS and BLANKENSHIP, Administrative Patent Judges.

KRASS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 1-27.

The invention is directed to a radio-frequency (RF) identification system with a restricted range. More particularly, an interrogator is enabled to communicate with a single tag without interference from other nearby tags by adjusting the 2-way communication range between the interrogator

transceiver and the tag transceiver to exceed the closest distance between the interrogator and the tag by a limited amount. Since the 2-way range is limited, the likelihood that RF identification tags on objects other than the one being handled by an operator will respond to the interrogator receiver is minimized.

Representative independent claim 1 is reproduced as follows:

1. A method of adjusting the two-way communication range of an RFID system to permit a person to individually handle and interrogate each one of a plurality of tagged objects, each tagged object having an RFID tag transceiver, comprising the steps of:

mounting on the person an RFID interrogator transceiver having an antenna;

mounting on each tagged object an RFID tag transceiver, wherein

each tag transceiver is characterized by a set of one or more performance parameters which control a reliable two-way communications range between that tag transceiver and the interrogator transceiver, and

the interrogator transceiver is characterized by a set of one or more performance parameters which control the reliable two-way communications range between the interrogator transceiver and any of the tag transceivers; and

adjusting at least one of the performance parameters so that the reliable two-way communications range between the interrogator transceiver and the tag transceiver of each of the tagged objects only slightly exceeds the closest distance, during times when the person handles that tagged object, between the

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antenna of the interrogator and the tag transceiver mounted on that tagged object.

The examiner relies on the following references:

Landt et al. (Landt)	5,030,807	Jul. 09, 1991
Verster	5,214,410	May 25, 1993
Boyles et al. (Boyles)	5,602,535	Feb. 11, 1997

(filed Jul. 15, 1994)

Claims 1-27 stand rejected under 35 U.S.C. § 103 as unpatentable over Verster, Landt and Boyles.

Reference is made to the brief and answer for the respective positions of appellant and the examiner.

#### OPINION

In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the examiner to establish a factual basis to support the legal conclusion of obviousness. See In re Fine, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the examiner is expected to make the factual determinations set forth in Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), and to provide a reason why one having ordinary skill in the pertinent art would have been led to modify the prior art or to combine prior art references to arrive at the claimed invention. Such reason must stem from some teachings, suggestions or implications in the prior art as a whole or

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knowledge generally available to one having ordinary skill in the art. Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir.), cert. denied, 488 U.S. 825 (1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985), cert. denied, 475 U.S. 1017 (1986); ACS Hosp. Sys., Inc. v. Montefiore Hosp., 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). These showings by the examiner are an essential part of complying with the burden of presenting a prima facie case of obviousness. Note In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). If that burden is met, the burden then shifts to the applicant to overcome the prima facie case with argument and/or evidence. Obviousness is then determined on the basis of the evidence as a whole and the relative persuasiveness of the arguments. See Id.; In re Hedges, 783 F.2d 1038, 1039, 228 USPQ 685, 686 (Fed. Cir. 1986); In re Piasecki, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984); and In re Rinehart, 531 F.2d 1048, 1052, 189 USPQ 143, 147 (CCPA 1976). Only those arguments actually made by appellant have been considered in this decision. Arguments which appellant could have made but chose not to make in the brief have not been considered and are deemed to be waived [see 37 CFR 1.192 (a)].

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The examiner finds that Verster discloses the mounting on each tagged object an RFID transceiver (20) and a portable transceiver unit having an antenna (12) but the examiner recognizes that Verster does not disclose any adjustment of performance parameters for reliable two-way communication range or that the tag is a modulated back scatter transceiver.

The examiner turns to Landt for a teaching of a sensitivity control signal (38) and reception sensitivity (120) for the purpose of improving the error rate of the transmitting signal, and that the tag will back scatter modulate the signal from the interrogator. The examiner then finds that it would have been obvious to have utilized the reception sensitivity of Landt in the tag system of Verster "since such would improve the quality of the signal received thereby effecting the reliability range of the tag" (answer-page 4).

Further, the examiner notes that Boyles suggests limiting the range of a transmitter receiver pair such that the distance between the transmitter and the receiver during operation is "only" slightly greater than the closest distance between the transmitter and the receiver pair to prevent the operation of other receivers, since the other receivers will be out of range (see page 4 of the answer).

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Appellant argues that none of the references teaches adjusting or limiting a 2-way communication range. Specifically, appellant argues that a "2-way communication range" is defined at page 7, lines 5-13, as the lesser of 1-way range A and 1-way range B, where "range A" is the 1-way communication range from the tag to the interrogator, and "range B" is the 1-way communication range from the interrogator to the tag.

Appellant then discusses Landt and contends that Landt merely discloses an RFID tag transceiver capable of switching between two receiver sensitivity modes, so that the only adjustment, affecting communication range, made by Landt is the changing of the tag receiver sensitivity and this changes the 1-way communication range of RF signals from the interrogator to the tag but does not change the 1-way communication range in the opposite direction, from the tag to the interrogator. Therefore, concludes appellant, Landt does not disclose changing or adjusting the 2-way communication range as in the claimed invention.

After reviewing the evidence before us, including, inter alia, the arguments of both appellant and the examiner, we conclude that the examiner has set forth a prima facie case of obviousness which has not been overcome by appellant's arguments.

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Our review of Landt shows that the reference discloses an adjustment to the sensitivity of the tag receiver so that when the tag comes close enough to the interrogator, the RF field is of sufficient strength for information to be written into the tag. While it is true that Landt changes only the tag receiver sensitivity, it appears to us that the change in this 1-way communication range will result in a change in the 2-way communication range because if the 1-way communication range from the tag to the interrogator is unchanged (and there is nothing in Landt which suggests that this range is changed) while the communication range from the interrogator to the tag is changed, then the total, i.e., "2-way" communication range has been adjusted, as claimed.

We also note, as did the examiner, that at page 7, lines 10-15, of the specification, appellant also appears to change, viz., reduce, the reliable 2-way communication range by changing the receiver sensitivity of tags. Thus, it does not appear reasonable for appellant to now argue that while Landt teaches an embodiment disclosed by appellant, Landt is not engaged in adjusting 2-way communication range while appellant does adjust the 2-way communication range.

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Appellant argues that if Landt's fixed 1-way range from the tag to the interrogator happens to be less than the shortest range to which Landt adjusts the 1-way range from the interrogator to the tag, then the 2-way communication range, as defined by appellant, will not be adjusted at all, as it will remain constant (see page 7 of the brief). We are unpersuaded. Appellant is making suppositions about what Landt *might* adjust. However, there is no indication in Landt that the communication range from the interrogator to the tag is changed at all or that it should be changed. Based on Landt's disclosure, the artisan would have no reason to believe that this communication range is changed. Therefore, since the communication range in the opposite direction, i.e., from the tag to the interrogator, is changed, or adjusted, it appears clear to us that the entire communication range, i.e., the 2-way communication range, as a whole, is adjusted, as claimed.

With regard to Boyles, appellant argues that the examiner has not specified which features of the claimed invention are considered to be disclosed or suggested by Boyles (see brief-page 10). Appellant also argues that Boyles does not disclose transponders at all.



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It appears to us that the combination of Verster and Landt would result in an adjustment of a 2-way communication range of an RFID system, as claimed. The examiner appears to be relying on Boyles, not for any teaching of interrogators/tagged objects (which is already taught by the other references), but, rather, for a teaching that it is sometimes desirable to change sensitivity ranges of communications so as not to interfere with other objects which otherwise would respond to a signal. In Boyles, the example is for changing the distance between a transmitter and a receiver for vehicles in a parking lot so that while all vehicles are programmed to respond to a common code, a short range control permits only the vehicle/vehicles within the immediate proximate area of the transmitter to be activated, while getting no response from vehicles outside the short range. Thus, the examiner is using Boyle for the instant claimed limitations of "only slightly exceeds," "exceeds the closest distance," etc.

It appears to us that Boyle is merely cumulative of the teachings of the other references since the claimed phrases, such as "only slightly exceeds," are merely relative, and the sensitivity adjustment of Landt can be said to change the communication range by only slightly exceeding the closest

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distance between an antenna of an interrogator and the tag transceiver.


Since we find none of appellant's arguments sufficient to overcome the examiner's prima facie case of obviousness, we will sustain the rejection of claims 1-27 under 35 U.S.C. § 103.


The examiner's decision is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED

  
JAMES D. THOMAS  
Administrative Patent Judge

  
ERROL A. KRASS  
Administrative Patent Judge

  
HOWARD B. BLANKENSHIP  
Administrative Patent Judge

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